

CLAIMS

1. A process for printing a porous substrate comprising ink jet printing a colorant and casein onto the substrate to give a print in which the colorant and casein are in contact with each other.

2. A process according to claim 1 wherein the colorant and the casein are printed onto the substrate separately.

3. A process according to claim 1 or 2 wherein the colorant and casein are in printed from different ink jet cartridges or are printed from separate chambers of a one ink jet cartridge.

4. A process according to claim 1 wherein an ink comprising the casein and colorant is printed onto the substrate.

5. A process according to claim 1 wherein the casein is printed onto the substrate in a first step and a composition comprising casein and colorant is printed onto the substrate in a second step to substantially the same area as the casein.

6. A process according to any one of the preceding claims wherein the substrate has high levels of voids within its structure.

7. A process according to any one of the preceding claims wherein the substrate comprises filler and binder in a weight ratio of at least 2:1.

8. A process according to claim 7 wherein the filler is clay, calcium carbonate, magnesium carbonate, silica, zeolite, alumina or a combination of two or more thereof.

9. A process according to claims 1 to 5 wherein the casein is substantially free from di and trivalent metal ions.

10. An ink comprising:

(i) 0.1 to 10 parts casein calculated on a 100% solids basis;

(ii) 0.1 to 15 parts colorant; and

(iii) 99.8 to 74.9 parts of a liquid medium;

wherein all parts are by weight, (i) + (ii) + (iii) add to 100 parts and the ink comprises less than 0.1% by weight of di- and tri-valent metal ions.

11. An ink comprising:

- (i) 0.1 to 10 parts casein calculated on a 100% solids basis;
- (ii) 0.1 to 15 parts colorant;
- (iii) 0.0001 parts to 0.1 parts of 1,2-benzisothiazolin-3-one;
- (iv) a liquid medium;

wherein all parts are by weight, (i)+(ii)+(iii)+(iv) add up to 100 parts and the ink comprises less than 0.1% by weight of di- and tri-valent metal ions.

12. A process according to any one of claims 1 to 8 wherein the casein and colorant are applied to the substrate in the form of an ink according to claim 10 or 11.

13. An ink jet printer cartridge comprising a chamber and a composition according to claim 10 or 11.

14. Use of casein to improve the ozone fastness of a colorant.